

AlphaGo

Deepmind [2]

AlphaGo Master 0000000000 AlphaGo Master00000AlphaGo Master 000000000
00000000000000000000

AlphaGo Zero 100% AlphaGo Master 100% AlphaGo Zero 100% [3] AlphaGo Master 16 AlphaGo Zero 18 AlphaGo Zero 14 16 45

1 Nature Magazine AlphaGo Deepmind AlphaGo
Zero AlphaGo Master

2) AlphaGo Zero local trap
AlphaGo Zero AlphaGo
AlphaGo

AlphaGo Zero [4] game

[illegible]

superhuman Technological Singularity
Demis Hassabis AlphaGo

IBM S/360 Alpha IBM S/360 Deep Blue Alpha IBM S/360 Deep Blue Alpha [5]

AlphaGo Deepmind team
AlphaGo
AlphaGo AlphaGo

[AlphaGo Zero](#), [AlphaGo Master](#), [AlphaGo Master](#), [AlphaGo Master](#), [6], [Nature Magazine](#), [AlphaGo Zero paper](#), [AlphaGo Master](#), deep-learning

AlphaGo Zero superhuman [7]
superhuman
deep-learning reinforcement superhuman

AlphaGo Zero と AlphaGo Master
AlphaGo Master が superhuman である。AlphaGo Master が 60 日間に
3 回 AlphaGo Master が superhuman である。AlphaGo Master が
AlphaGo Zero が superhuman である。superhuman [8]

AlphaGo Zero と AlphaGo Master が AlphaGo Master が

AlphaGo と AlphaGo が

AlphaGo が Turing Machine が deep-learning が AlphaGo が
Deepmind が AlphaGo
Zero が AlphaGo Master が AlphaGo Zero が AlphaGo Zero が

Deep-learning が credit reinforcement が credit reinforcement が local trap が

ideas are cheap が idea が cheap が reinforcement が [9]

leukotomy が reinforcement が peer review が
Socratic method が peer review が
Socratic method が peer review が

AlphaGo が reinforcement が

[10]

[11]

Turing Machine が
Turing Machine が local trap が Universal approximation が

Socratic method が
Superhuman が
Superhuman が

3 personality intelligence Walter Freeman personality intelligence


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[2] 文章 Cracking Go 介绍了 Deep Blue 和 AlphaGo 的棋局，以及 AlphaGo 的棋局。

[4] 

AlphaGo 围棋人工智能程序在2016年3月9日与韩国围棋世界冠军李世石进行了人机大战，最终以4:1的比分获胜。这一胜利标志着人工智能在围棋领域取得了重大突破，也引发了人们对人工智能未来发展的广泛讨论。

AlphaGo 是 Google 开发的 AlphaGo Zero 是 AlphaGo 的升级版，达到了 Human level artificial intelligence。AlphaGo 是 Google 开发的 AlphaGo Zero 是 AlphaGo 的升级版，达到了 Human level artificial intelligence。

Google/Deepmind AlphaGo

[5] [superhuman](#) [Alpha](#) [6]

Deepmind Alpha Nature Magazine Alpha

[6] 本論文は、AlphaGo の開発に  
 関する AlphaGo Master の 60+3  
 に関する情報を提供し、  
 本論文の公開を目的とする。

[illegible]

AlphaGo Master

[7] <http://www.alphago-games.com/> Full Strength of Alphago Zero, i.e. Final Form 40 Blocks 20 Blocks Not Full Strength of Alphago Zero Alphago Zero superhuman

[8]

[9] 2012 "Show, don't tell" show Socratic method tell and discuss

Ideas are cheap

[10] "Go gaming is strictly defined within a very small space. Industrial automations are typically designed in well controlled environments, but not strictly defined. Car driving is regulated, but the environment is not well controlled"

[11]

AlphaGo

[12] AlphaGo Master AlphaGo AlphaGo AlphaGo

[13] Dialogue Concerning the Two Chief Word Systems Socratic Method

AlphaGo

[14] AlphaGo 围棋程序源代码  
AlphaGo 围棋程序源代码

AlphaGo  
BRAIN Initiative project

[illegible]

[15] Leukotomy <https://www.braininitiative.org/> BRAIN Initiative project <https://www.brianinitiative.org/> **BRIAN Initiative**

[16] 围棋の歴史と未来. AlphaGo の登場で、  
棋界は大きく変化した。未来の棋界は、  
どのように変化するのか。